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ABSTRACT

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Information Series No. 111

INDUSTRY/EDUCATION COOPERATION FOR ADULT CONTINUING EDUCATION

written by

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FOREWORD

The Educational Resources Information Center on Career Education (ERIC/CE) is one of sixteen clearinghouses in a nationwide information system that is funded by the National Institute of Education. The scope of work for ERIC/CE includes the fields of adult-continuing, career, and vocational-technical education. One of the functions of the Clearinghouse is to interpret the literature that is related to each of these fields. This paper on business/industry/labor and adult education should be of particular interest to industry trainers, public school, community college, and university personnel who have adult education administration and teaching responsibilities.

The profession is indebted to Roy Butler, The Center for Vocational Education, The Ohio State University, for his scholarship in the preparation of this paper. Recognition is also due Lucille Wright, Cleveland State University, and John Schenck, University of South Dakota--Springfield, for their critical review of the manuscript prior to its final revision and publication. Allen B. Moore, Adult Education Specialist at the ERIC Clearinghouse on Career Education, supervised the publication's development. Madelon Plaisted and Jo-Ann Cherry coordinated the production of the paper for publication.

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INTRODUCTION

Our country has faced and conquered many perplexing and complex problems. Historians tell us each generation has solved problems and created problems for the succeeding generation to solve. At this period of history, it is probably safe to project that our problems are more perplexing and complex than at any other time. Put another way, our challenges and opportunities have never been greater. Whether we call the situation problems, challenges, or opportunities is really beside the point. The main point is that our complex situation will not be solved by the efforts of a few, but will require the best thinking and participation of all segments of society, particularly adults. As rational thinkers and doers, we can collaborate and cooperate to enhance capabilities to find solutions to present and future problems.

Continuing education for adults is at center stage when the need to solve complex problems and meet challenges is posed. Concurrently, the need for joint industry/education cooperation to provide relevant continuing adult education programs is also cast to center stage.

This paper will focus on: (1) a brief review of the definition of adult continuing education; (2) some of the most critical, complex, and perplexing problems that set forth imperatives for greater industry/education cooperation; (3) barriers and facilitators relating to industry/education cooperation; (4) joint ventures and new developments in the industry/education cooperation arena, particularly as it relates to adult continuing education; and (5) suggested techniques and implications for future industry/education research and development activities.

Content in this paper has been drawn from research and development reports, journals and other periodicals, and personal observations and experiences in conducting adult continuing education programs on an industry/education cooperative basis. The vast library collection of The Center for Vocational Education at The Ohio State University was an excellent resource for this paper, as well as the documentation found in AIM/ARM and the national ERIC system.

The goal of this paper is to stimulate thought, dialogue, debate, research, development, and positive action in bringing about a more finely tuned alliance between education, business/industry/labor, and government in providing relevant continuing education for adults of all ages.

ADULT CONTINUING EDUCATION DEFINED

Finding a precise and agreeable definition of adult continuing education is a difficult, if not impossible, task. This statement is not made to be critical but to underscore the fact that the illusiveness of a precise and agreeable definition may be very healthy for serving the changing needs of adults.

The definitions of adult continuing education by various individuals, organizations, and legislative bodies have varied in scope and meaning.

In the Education Amendments of 1976, the Congress indicated continuing education is

> postsecondary instruction designed to meet the educational needs and interests of adults including the expansion of available learning opportunities for adults who are not adequately served by current educational opportunities in their communities (p. 11).

Adult programs are further defined by the Rules and Regulations for Part IV of Public Law 94-482 as

> vocational education for persons who have already entered the labor market or who are unemployed or who have completed or left high school and who are not described in the definition of postsecondary program (p. 53863).

Wirtz (1976) claims we have become captives to defining life and education into three time traps: "Youth for education, adulthood for work, and older age for the denial of opportunity to pursue either of these courses of meaningfulness" (p. 6).

Knox (1977) does not attempt to categorically define adult continuing education in his comprehensive book. He tells more about action to initiate and carry out both formal and informal learning activities for adults. Similarly, Levine (1977) expressed the notion that many definitions float around, create confusion, and minimize constructive action. He concluded "it is not the definition that is so important, but whether your specific definition requires a specific kind of action (p. 37).

Another way of defining adult continuing education is to focus on adult needs. Most adults need and want: (1) a productive work life; (2) to be able to afford adequate leisure; (3) comfortable interpersonal relationships with family and/or friends; (4) safe, secure and healthful living; and (5) a decent, comfortable home. Changes in economic conditions, variations in values, and advancing technology have all served to alter the kind and context of adult needs.

Regardless of the definition, a strong implication arises for strengthened linkage between education, business/industry/labor and government in providing education for adults. In short, our rhetoric must be matched with practical and well thought out cooperatively derived educational programs to serve current adult needs. Such formal and informal continuing educational opportunities will enable adults to meet pressing economic, social, and technological changes in the most productive way possible.

CRITICAL ECONOMIC, SOCIAL AND TECHNOLOGICAL CONDITIONS

The list of current day conditions, problems, and opportunities could almost be endless. A full treatment of this situation is beyond the scope of this paper. It should be noted, however, that our country is squarely in the middle of world problems, such as population increases and age shifts, increased longevity, depletion of minerals and raw materials, food shortages, and geriatric care, inflation, low productivity, and wavering faith in business and government. The collective magnitude of these and other problems threatens to overwhelm us. It seems unfortunate, but true, that we are a "crisis-oriented" society. We too often wait until a crisis is near before we take resolution-type action.

Following are selected pressing economic, social, and technological concerns that are impacting to shape adult education needs now and in the future.

POPULATION AGE SHIFTS

The age distribution of the U.S. population and numbers in each range has shifted dramatically in the past two decades. Population analysis have been plotting and projecting this occurrence fairly accurately. The fundamental question is whether planners and policy makers in the public and private sectors, particularly educators, have been paying close enough attention to these projections.

These projections have tremendous economic and social implications. For example, the educational picture is beginning to reflect these trends: communities are now closing school buildings or trying to determine how the buildings can be utilized for other purposes. In some cases, colleges and universities are studying how facilities can be used in other ways because of declining enrollments of traditional populations.

If trends continue, more people in our country will reach retirement age in the next two decades and less people of working age will be called upon to support programs for older adults. At the same time. older adults will be trying to stay in the labor market longer. The Congress has acted to declare 70, not 65, as the retirement age and has essentially made mandatory retirement illegal.

UNEMPLOYMENT

Compared with the post World War II era, unemployment has lingered at unacceptable levels for a long period of time. While full employment may never be possible, it remains a justifiable goal of planners and policy makers. Several problems are constantly being faced as we chip away at our serious unemployment problem. Craig (1975) has commented that "it takes a lot of recovery just to stop unemployment from increasing because of increases in the rate of productivity and because of an ever-growing labor force." However, the Congressional Budget Office (1977) has noted that unemployment is not caused solely by an overall lack of demand for workers, but by structural factors such as discrimination, geographical imbalances and low demand for semiskilled workers. Complicating the unemployment picture even further, Pratzner (1977) points out

> in a single year, over eleven million people change occupations and/or employers and in a five-year period, between a quarter and a third of the American work force changes occupations (p. 1).

Constant concern is expressed about the extremely high unemployment rates of young adults. Young white adult unemployment is around 18 to 20 percent, while unemployment of blacks and other minorities hover at approximately 40 percent and higher in various geographical areas. Competition for available employment situations is keen. Young adults often do not have skills or experience to effectively compete in the labor market.

Over a decade ago, Kreps (1963) posed questions that must be squarely faced today:

> what will be the age composition of the labor force? This question of which age group is to be given preference in the job market involves important issues of resource allocations. To what extent, and under what economic arrangements, are the non-working members of society to share in the total output (p. 11)?

Some of the approaches used in other countries to keep unemployment at a low level merit careful study, according to a conference report edited by Prendergast (1976).

UNDEREMPLOYMENT

Our country is not only faced with an unemployment problem, but increasing numbers of observers are noting that we are beginning to have a serious underemployment problem.

Newsweek (April 26, 1976) published an article pointing out that an estimated 27 percent of the nation's work force may now be made up of people who are "over-educated" for the jobs they hold. Earlier, the *American School Board Journal* (January 1976) noted "the United States Census Bureau projects 800,000 people will be graduated from college over the next ten years into a world of work that does not need them" (p. 13). O'Toole (n.d.) makes the same claim and explains the problem is further exacerbated by the annual immigration of approximately 120,000 trained professionals. Otten (1974) suggests a little simple mathematics indicates our

> nation is producing millions more college and university graduates than it is producing jobs needing that much education...(and) that inevitably means that large numbers of people with college educations are going to be working at jobs that never required a college education before, and don't really need a college education (p. 6).

The Congressional Budget Office (1977) emphasized that the underemployment situation is setting a process in motion whereby less educated, low skilled persons are increasingly being "bumped out" of clerical and other support positions by college graduates. The Institute of Life Insurance (1975) projects the results of this chain of events over the next fifteen years will be more public frustration and worker alienation, increased potential for productivity slowdowns, employee sabotage, and job riots. Ferrin and

Arbiter (1975) concur with the notion our country is entering an era of chronic underemployment. They suggest "large numbers of individuals will be employed in situations they find discomforting at best and intolerable at worst, and unless business and educational leaders take note, the era may become explosive" (p. 99).

WORKING WOMEN

Newspapers, magazines, research, legislation and other documents are highlighting the need to increase equal opportunities for women. As a result, more women are now entering the labor market than at any time since World War II. A *Newsweek* (December 1976) article states "this trend will continue and the U.S. labor force will increase from 95 million to 114 million by 1990. Approximately 12.6 million of the new job seekers will be women between the ages of 25 and 54." Olesen (1977) reports "American women are living longer, marrying later and less often, remarrying less frequently, having and expecting to have fewer children, and often plan to have no children" (p. 94).

Robinson (1976) reports the continued growth of women in the work force is stimulating public and private organizations to adapt their work schedules to include flex-time, staggered work hours, part-time employment and other alternatives to the standard work schedule. Nontraditional occupations are opening up for adult women entailing increased needs for educational training and upgrading.

ENERGY

How to survive now and in the future because of the nonrenewable energy "crunch" is increasingly on the minds of most Americans. Our economy has been built on the availability of an unrestricted flow of low cost gas and petroleum products. The oil embargo and limited natural gas supplies have caused the U.S. citizenry to begin studies and assessments of ways to meet this crisis. Our survival as a democratic society depends on (1) how well we analyze the current and future energy situation; (2) the immediate actions we take; and (3) the kinds of educational programs we design for the general population. Whatever steps are taken must be based on accurate information. Adults will be called on to give leadership to utilizing conservation measures and designing sensible solutions.

TECHNOLOGICAL ADVANCES

Technological advances have caused some displacement of workers. However, the massive threat of the machine replacing workers, which

was debated repeatedly in the 1950s, has not materialized. Rather, technological advances have tended to create more jobs requiring either new skills and careers or sophistication of present skills.

Our technological advances have been undeniably connected with increasing the rate of energy consumption. It has been noted, however, that technology (human ingenuity) can "meet this challenge as successfully as it has met others, and to lay blame for our problems on technology is to attack the best hope for solutions" (Fuller, n.d., p. 1).

Devore (1972) expresses the belief that we are now beginning to face the consequences of a technocratic society and

> man, in the process of creating his technology, has altered his potential. He has altered his perception of himself, his culture, and even his concept of reality. Technology has become a powerful disruptive force within society, and rather than being one of many factors within the cultural fabric of society, has emerged as a dominant factor altering the opinions, choices, and potential of man and society (p. 6).

In the process, our increasing technological and automated society has given many people the erroneous impression that work may some day be eliminated. *Time* magazine (October 30, 1972) succinctly summarized the problem this way:

> The American work ethic is rooted in Puritan piety, immigrant ambition and the success ethic; it has been strengthened by Depression trauma and wartime patriotism. Not much remains of that proud heritage. Today, in a time of the decline of organized churches, work has lost most of its religious significance. Horatio Alger is camp. Only a minority of workers remember the Depression. Welfare and unemployment benefits have reduced the absolute necessity of working, or at least made idleness less unpleasant. Automation has given many people the ethnic-eroding impression that work may some day be eliminated, that machines may eventually take over society's chores (pp. 96-97).

In addition, Herzberg (1974) notes the more educated population since World War II has become sensitive to what they do not know and this has created a greater awareness of manipulation.

INDUSTRY/EDUCATION/GOVERNMENT INTERFACE

To solve the above concerns and others, industry/education/government must develop a more rational cooperative approach in providing relevant adult continuing education programs now and in the future. What are the cooperative inhibitors and facilitators?

GOVERNMENT

The federal government has numerous efforts in motion to prepare adults for more productive and enjoyable lives. This fact can be considered both inhibiting and facilitating in nature. However

> oftentimes our Federal Government tries to do too much and unfortunately achieves too little. There are, for example, approximately 380 separate Federal educational programs beyond the high school level, some duplicating others, administered by some 50 separate Executive agencies. The result inevitably is a bureaucracy that often provides garbled guidelines instead of taut lifelines to good and available jobs (Ford, 1974, p. 8).

The same can be said about state and local government efforts on adult education programs, since they often mirror provisions made by the federal government.

INDUSTRY/EDUCATION

Efforts to form a more mutually beneficial long-term alliance between industry and education at all levels are increasing in intensity and with greater success than at any other time. Maintenance of this momentum will require a better understanding of the persistent inhibitors and/or barriers.

Ferrin and Arbeiter (1975) identified four categories of barriers appearing to hamper industry/education cooperation: (1) fluctuating requirements; (2) development and use of manpower information; (3) credentialing, certification and licensing; and (4) control and authority. Parnes (1976) suggests "many of our present human resource problems have developed, or at least been exacerbated, by the compartmentalization of interest and expertise" (p. 3).

Other barriers of a more personal and traditional nature often inhibit establishment of industry/education cooperative efforts. These barriers are considered unwritten agenda items, untested through research, often not expressed, and they are not mutually exclusive.

1. Trust--Many educators simply doubt the motives of business, industry, and labor leaders when they express interest in cooperating in the development and operation of educational programs of any kind. Business, industry, and labor leaders often approach the relationship with the same skepticism.

2. Control of "Turfdomship"--The question of who is going to control whom and what is often foremost in the minds of both groups considering initiating adult education programs.

3. Communication--Too often educators are communicating on "AM" while business, industry, and labor leaders are communicating on "FM" and/or both are communicating on "AM," but cannot understand each other's jargon. In fact, both groups may be talking about the same thing with different terminology and this takes precious time to unravel and/or dicipher. Since time is a precious commodity, communication is delayed or does not take place. The result is little or no positive action.

4. Knowledge--At the root of many problems plaguing industry/education relationships is the background of individual leaders themselves. Lack of specific knowledge about proper training, educational program development, and operation methodologies on the part of business, industry, and labor leaders, often leads to the belief that educators recommend idealistic, unreasonable, and unrealistic solutions or programs. By the same token, educators generally lack an understanding of the realities of the day-to-day business, industry, and labor world. This lack of knowledge often leads educators to believe business, industry, and labor leaders are harsh in their judgments about "proper educational methodology" emanating from the educational specialists.

   Lack of knowledge and impatience on the part of both parties leads to the erosion of initial steps to cooperate. This barrier, along with the inability to communicate, often terminates cooperative efforts.

5. Political Astuteness--The lack of political astuteness is leveled at educators because they often do not understand or appreciate the intricacies of the collective bargaining process and the adversary relationship between management and labor. This lack of political "savvy" or sensitivity causes educators to recommend some educational programs and other efforts that simply will not "fly" in the labor-management world because they are not couched in neutral terms. When educators make such recommendations, they may be perceived as being either "management oriented groups " by labor groups or "labor oriented" by management.

Business, industry and labor leaders often do not understand or appreciate the intricate responsibilities of the academic world and its political environment. As a result, educators may be expected to take action inconsistent with the fundamentals of academia. (An example is noted in number 4.)

6. Fear--The problem of fear is difficult to overcome when adults attempt to learn and/or give leadership to an effort. The "fear" aspect is compounded when two groups (industry/education) with significantly different motivations and interests seek to work cooperatively toward a common goal. Few people enjoy "parading" their ignorance. Often it is not realized that we are all intelligent, but intelligent about different things. Fear grows out of a lack of knowledge, understanding, or practical experience of educators. Business, industry, and labor leaders sense some of the same fears and resent credentialed individuals, feeling inferior, if they themselves do not hold a college degree.

7. Research and Development--The need to take action and show quick results in the business world often precludes the time needed to conduct valid research on which education and training programs should be designed. As a result, "make do" and "make work" curriculum materials and training programs are offered. Many educators find this lack of adequate R&D to be a "stumbling" block to cooperative efforts. Typically, educators believe methodology-sound research should be used to determine needed competencies, appropriate training materials, and program approaches. Educators who work with business, industry, and labor and are willing to accept less formal research approaches are often criticized and called irresponsible by their education colleagues.

8. Funding--Many industry/education cooperative programs for adults are started but fail to continue because of inadequate long-term funding.

9. Qualified Instructors--Most training programs needed by business, industry, and labor are unique and focus on specialized subject areas. Efforts of educators to respond to program needs are often stymied due to inability to find instructors who possess both excellent teacher qualifications and practical, up-to-date industrial experiences.

10. Personal Finances and Reimbursement--Allowances are usually not permitted by public institutions for educators to be reimbursed for many expenses entailed in the interaction to develop cooperative ventures. This often hampers an educator's ability to

effectively interact, particularly where a large amount of productive work is accomplished in an informal setting.

This situation is frequently not understood or even known by business, industry, and labor persons. Further, the inability to associate on an equal financial basis often proves embarrasing to educators.

11. Salary Increases and Advancement in Academia--Position advancements and salary increases in colleges and universities are tied primarily to research and publication, rather than to teaching effectiveness and service. This situation reduces the willingness of professional educators in higher education to be involved with business, industry, and labor over an extended period of time in the cooperative development and operation of training programs.

As part of an Education Professions Development Act (EPDA) project conducted by The Center for Vocational Education at The Ohio State University under sponsorship of The Ohio Department of Education, Division of Vocational Education, and the U.S. Office of Education, Dieffenderfer et al (1977), conducted a national survey to determine the extent to which vocational teacher education departments had developed linkages and/or used inputs from business, industry, and labor in their preservice and inservice vocational teacher education programs. The survey findings from 312 usable chairperson responses indicated business and industry representatives are involved much more heavily than those from the labor section. The study identified the multitude of ways business, industry, and labor are utulized in program operation, program support, and program development. Study respondents were asked to describe problems encountered in developing linkages with business, industry, and labor. Forty-six respondents (42%) cited problems/inhibitors somewhat similar to those discussed above. Specifically, the following rank-ordered personal, institutional, geographic and economic problems were noted:

1. Lack of time to make contacts and maintain working relationships.
2. Financial limitations preventing exchange and/or support.
3. Lack of administrative interest and/or support.
4. Scheduling difficulties.
5. Geographic location/distance affecting cooperation.
6. Finding/identifying the right business, industry, and labor persons to serve as resource persons.
7. Educators fearing involvement and/or having negative attitudes concerning involvement.

8. Business, industry, and labor persons reluctant to cooperate.
9. University paperwork too slow in approval.
10. Instructor release time is limited.
11. Business, industry, and labor persons lack knowledge of university modes of operation.
12. Business is more interested in prospective sales than in education.

As a result of recommendations derived through planned activities, Dieffenderfer and his colleagues developed a series of useful handbooks which will be discussed later.

JOINT VENTURES AND NEW DEVELOPMENTS

Despite many inhibiting factors, industry/education cooperation is moving ahead with vigor. No doubt, the first step of achieving more complete cooperation involves recognition of inhibiting as well as facilitating factors. Also, the imperative to solve some very complex current and future problems should mold such cooperative efforts. The National Advisory Council on Vocational Education underscores this message:

> University and college schools of management, labor relations, and public administration must give more attention to increasing the educational function of the work place. The decision-makers who graduate from those schools will need to reduce the false barriers that have been erected between school and work, learning and working, student and worker. Leaders in the work place as well as in the school need to recognize the mutually beneficial results of active industry-labor-education cooperation. Universities must play a role in developing that awareness. (School-to-Work Project Team)

Following is a sample of significant industry/education activities, studies, reports, books, and newsletters which give visibility to industry-education cooperative efforts. It can be noted that many of these efforts are aimed at reducing the criticalness of the complex and perplexing economic, social, and technological problems discussed earlier. Also, the cited efforts have been aimed at assessing and/or improving cooperative linkages between industry and education.

Assessment of Cooperative Linkages

Ferrin and Arbeiter (1975) analyzed industry/education cooperation according to the degree of linkage on a continuum (for example, Separation-Communication-Participation-Substitution-Integration). This type of self-analysis could be used to determine the balance of relationships between industry/education groups as they attempt to cooperate more closely in providing adult continuing education programs.

Start-Up Training

Brooks (1976) recently reported on cooperative efforts between industry and community agencies in the area of "start-up training." Such efforts are designed to orchestrate both formal and nonformal educational resources in a community to train persons for specific jobs in new and expanding industries. Experience has been that business and industrial firms are attracted to communities that cooperate in development of programs to provide a ready source of qualified employees. Both formal and nonformal educational resources are utilized to provide relevant training which enhances the climate for industrial and economic growth.

Developing start-up training programs is currently emphasized in Mississippi, Oklahoma, Arkansas, South Carolina, Alabama, and Pennsylvania. Manuals and guides for initiating start-up training programs are available from these states.

Occupationally Transferable Skills

It is clear that in the future, education and work programs will have to concern themselves with and improve the ability of individuals to make career changes. Additionally, the capacity of institutions will need to be improved to assist individuals in making these changes. In recognition of these critical problems, The National Institute of Education (NIE) is sponsoring an exploratory investigation into occupationally transferable skills. The study, being conducted by The Center for Vocational Education at The Ohio State University, will examine job mobility (both vertical and horizontal, voluntary and involuntary) with the aim of identifying, classifying, and gaining an understanding of specific skills, abilities, and competencies that appear to facilitate job mobility.

The project will: commission three papers on transferable skills, occupational mobility, and job classification; establish and use the services of a working panel of consultants; conduct nine meetings of local community/business representatives; examine existing occupational data bases and classification schemes; and review practices in selected training and retraining programs (Pratzner, 1976).

Industry and State Supported Educational Agency Cooperation

Granger et al. (1975) found that cooperation between industry and state supported educational agencies to operate programs for adults with less than a high school education is a reality in many of the fifty states and territories. The findings of the study are detailed in five documents published by The Center for Vocational Education at The Ohio State University (See Moore and Granger citations in the references). These publications, produced under the sponsorship of the United States Office of Education, Bureau of Occupational and Adult Education, Division of Adult Education, provide valuable insights and information on how various linkages have been effectively established between education and industry to offer relevant programs for a specific adult population. Many of the ideas and guidelines would apply to any cooperative effort to provide education programs. The publications are written in a very readable style.

Public and Private Career Change Programs

Based on the premise that many employees become dissatisfied with their careers, a current project of the Technical Education Research Centers, Incorporated, is identifying and studying career change programs in public and private agencies. The project reports and publications will be aimed at increasing educator, employer, labor representative, and government official awareness of the need for joint industry/education cooperation in establishing and operating employee-selected career-change programs (Budke, 1977).

University/College and Labor Education Collaboration

A significant amount of work to provide education for workers is provided by members of The University and College Labor Education

Association (UCLEA). The UCLEA is an organization of universities and colleges with regular and continuing programs to provide education for workers and their organizations. The UCLEA promotes cooperation among member programs, assists with the orderly expansion of labor education, and promotes cooperation between unions and universities and colleges of education. The organization also serves as the national representative of university and college labor education and develops professional standards in the field of labor education.

Twenty-six states have college and university members in UCLEA.

Community College and Labor Union Cooperation

A most significant effort to bring education and work together is being conducted by the American Association of Community and Junior Colleges (AACJC) under a grant from the U.S. Department of Labor. Named the "Service Center for Community College--Labor Union Cooperation," the AACJC effort is encouraging its affiliates to establish relevant education programs for workers with guidance from community education/work councils. Also, the Service Center acts as an information clearinghouse on community college-labor cooperation by publishing a newsletter called *Cooperation* and by conducting communication conferences with labor and community college participants.

Nontraditional Career Development Directory

New and exciting alternatives to pursuing traditional career developments and educational avenues have emerged with tremendous growth in the past few years. Such opportunities for youth and adults can be found in public and private agencies (including local, state and federal settings), business, industry and labor, foundation, social and community organizations and various professional associations.

To provide visibility for these nontraditional opportunities, Renetzky and Schlachter (1976) recently developed a directory "to provide accurate, concise and up-to-date guide(s) to the many and varied internship, work experience and on-the-job training opportunities currently available" (p. 7). The directory is a highly informative resource to use in helping adults select and pursue nontraditional educational opportunities.

Educational Brokering

The National Center for Educational Brokering (NCEB) publishes a monthly *Bulletin* to promote educational brokering through technical assistance and public policy studies and recommendations. The NCEB is an organization for advisement, assessment, and advocacy for adults. Each issue of the *Bulletin* focuses on efforts across the country to make lifelong learning a reality in our changing society. The NCEB publication is highly informative and one that leaders in business, industry, labor, and education should acquire.

Work-Education Exchange

A bi-monthly publication of The National Manpower Institute, *The Work-Education Exchange* serves as the newsletter of the Work-Education Consortium. The Consortium is a collaborative initiative sponsored by the U.S. Department of Labor. The Consortium is composed of thirty-two communities which are organizing themselves to assist youth in transition from school to work, several national organizations who support activities of the consortium communities, and the Federal Inter-agency Steering Committee on Education and Work.

Education and Work

A Capitol Publications (Educational News Service) bi-weekly newsletter to give visibility to funding, legislation, policy, and innovative ideas on all aspects of school-to-work transitions.

Worklife

The Employment and Training Administration, U.S. Department of Labor produces, *Worklife*, is a monthly periodical focusing on local, state, and national employment and training efforts for adults.

Education Professions Development

The education profession, particularly vocational education, has begun to realize that more action and less talk needs to occur with regard to preparing administrators and teachers at all levels to work closely with business, industry, and labor. The project conducted by Dieffenderfer et al. (1977), which was discussed earlier, led to the development of a series of handbooks to provide guidance

to involving business, industry, and labor in vocational education personnel development programs. The "how to" resource handbook series focuses on:

1. Staff development
2. Advisory committees
3. Cooperative internships
4. Personnel exchange programs
5. Workshops
6. Site visits
7. Resource persons
8. Program support

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations appear warranted from the previous review and discussion. It should be noted that the conclusions and recommendations call for: (1) reorienting adult continuing education programs and (2) more intensive cooperation among business, industry, and labor and education to provide relevant continuing education programs for a growing number of adults at the point of need.

Conclusion 1--The working environment is changing due to automation and other technological advancements.

Recommendation: Adult vocational education programs should focus not only on the here and now and on meeting specific vocational needs, but also on preparing people to engage in the comprehension of problems and issues surrounding technological system interactions and interrelations.

Conclusion 2--Different values, life styles, expectations, and aspirations are held by increasingly diverse groups of individuals in the work force.

Recommendation: Adult vocational education programs should help all participants to understand the heterogenous nature and spirit of individuals in the work force.

Conclusion 3--Group or team efforts will likely become an important ingredient in the performance of tasks on the job.

Recommendation: Adult vocational education programs should increasingly focus on group dynamics and on the psychology of team work.

Conclusion 4--The work week will gradually shorten for more workers.

Recommendation: Adult vocational education programs will need to include more instruction on the relationship of leisure and recreation, as they relate to increased productivity on the job and the shortened work week.

Conclusion 5--People will continue to silently revolt and seek understanding of their total needs.

Recommendation: Adult vocational education programs will need to focus on the virtues of having an enlightened "will" or ethic to work, as well as helping participants to understand how to blend work with other events in life.

Conclusion 6--Workers will gradually be allowed to select their own work schedule, within certain limits.

Recommendation: Adult vocational education programs can help workers to understand and appreciate what it means to be able to select their own work schedules. At the same time, the program can help participants to realize the responsibility that accompanies such privileges.

Conclusion 7--Minority groups will become more active participants in the work force.

Recommendation: Adult vocational education programs can help participants to appreciate the dignity, aspirations, motivations, and worth of each individual without regard to sex, race, or religion.

Conclusion 8--Participants in adult vocational education programs will become more active and involved in the solution of society's problems.

Recommendation: Adult vocational educators should capitalize on their opportunities to eliminate alienation and the feeling of powerlessness among program participants. This, in turn, will help them become fully functioning members of society.

Conclusion 9--Many industry/education cooperative programs for adults have been developed during the past decade.

Recommendation: Cooperatively derived programs by business, industry, and labor and education need to be studied more thoroughly to identify transferable models and/or model components which might

be applicable to other settings. Findings should be communicated through a variety of means to educators and business-industry-labor leaders.

Conclusion 10--Interest in industry/education cooperation has matured to the point that serious and in-depth study can now be attempted to honestly and accurately identify the inhibitors to cooperative effort.

Recommendation: A broad-based study should be initiated to categorically identify inhibiting factors at local, state, and national levels that hamper cooperative industry/education planning, operating and evaluating of program for adults.

Finally, it is important for industry/education leaders to realize that they have to be in a continuous state of learning relative to what is going on in the world of technological development and in the world of education and the work place. This does not mean becoming experts in all aspects, for that is virtually impossible, but to understand the social and policy implications--how they might radically be affecting people in their immediate environs. Openess to learning, revising instructional content and methods accordingly, will help the constant construction of instruction relevant to the changing world as it relates to adult vocational education needs.

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